DRAFT

EVALUATION REPORT
Comcast Communications
Application #8597- Plant #13900
Daly City, CA

I. BACKGROUND

Comcast Communications, in Daly City has applied for an A/C for its standby diesel generator. The facility installed this equipment prior to May 2001 as an exempt source. Now, the facility would like to install a DPF and increase the hours of operation. Under A/N 4437, hours allowed in the previous condition for testing and maintenance was 2.6 hours per year (0.16 g/bhp-hr for PM-10). All fees have been paid. The abatement device will meet BACT criteria for PM emissions. The generator would run for 24 hours per day if a blackout were to occur. The following source is requesting an A/C a change in conditions and for abatement equipment:

S-1 Emergency Generator, Caterpillar 3412; 500KW (749 BHP) 100 hours annually
A-1 CleanAir Permit Filter System - Diesel Particulate Filter- catalyzed DPF

II. EMISSION CALCULATIONS

Emission factors provided by Caterpillar do meet BACT(2) for PM-10 based on the Clean Air Permit Filter System of a DPF. Thus, Nox, CO, PM-10 and POC emissions are based on Manufacturer factors.

	Manufacturer	BACT(2)
NOx	6.6 g/bhp-hr	6.9 g/bhp-hr
CO	1.17 g/bhp-hr	2.75 g/bhp-hr
POC	0.1 g/bhp-hr	1.5 g/bhp-hr
PM10-diesel	0.0495 g/bhp-hr	0.1 g/bhp-hr

Hours of Operation = 100 hr/yr
Diesel Heat Capacity = 19,300 BTU/lb
Fuel Consumption = 39 gal/hr
Estimated Fuel Usage = 39 gal/hr X 100 hr/yr = 3900 gal/yr
Heat Input = 39 gal/hr X 7.1 lb/gal X 19,300 Btu/lb = 5.307E6 Btu/hr

Emission Calculations per source:
NOx = 6.6 g/bhp-hr (749 hp)(1 lb/454 g)(100 hr/yr) = 1088.85 lb/yr or 0.5444 TPY
CO = 1.17 g/bhp-hr (749 hp)(1 lb/454 g)(100 hr/yr) = 193.02 lb/yr or 0.0965 TPY
POC = 0.1 g/bhp-hr (749 hp)(1 lb/454 g)(100 hr/yr) = 16.50 lb/yr or 0.0083 TPY
PM10 = 0.0495 g/bhp-hr (749 hp)(1 lb/454 g)(100 hr/yr) = 8.17 lb/yr or 0.0041 TPY

SO2- Calculation: see spreadsheet

III. PLANT CUMULATIVE INCREASE AFTER 4/5/91

	Current Ton/yr	New Ton/yr	New Total Lbs/yr	New Total Tons/yr
POC =	0.0002	0.0081	16.50	0.0083
NO_X =	0.0129	0.5315	1088.85	0.5444
SO_2 =	0.0004	0.0159	32.70	0.0163
CO =	0.0041	0.0924	193.02	0.0965
NPOC =	0.0000	0.0000	0.00	0.0000

TSP =	0.0003	0.0038	8.17	0.0041
PM_{10} =	0.0003	0.0038	8.17	0.0041

IV. TOXIC SCREENING ANALYSIS

This application is subject to a toxic review because the source has requested an increase in throughput and the modification was placed in service after May 2000. The facility does have diesel particulate emissions greater than the toxic trigger level.

Toxic Pollutant Emitted	Emission Rate (lb/yr)	Risk Screening Trigger (lb/yr)
PM 10 (Diesel Particulate)	8.17	0.6

V. BEST AVAILABLE CONTROL TECHNOLOGY

Source S-1 from this facility triggers BACT since the emission rate of NOX and CO are greater than 10 pounds of emission per highest day per source per Regulation 2-2-301. The use of a Selective Catalyst Unit to meet BACT(1) is not required because it is not cost effective for emergency generators on a standby basis. Sources S-1 will comply with BACT(2) because it is conditioned to demonstrate compliance with manufacturer's guidelines.

VI. OFFSETS

Offsets are not required since the facility's emissions are much less than 15 ton/yr per Regulation 2-2-302.

VII. STATEMENT OF COMPLIANCE

Source S-1 of this application is fired with liquid fuel and therefore is not subject to Regulation 9, Rule 8 ("NOx and CO from Stationary Internal Combustion Engines"). The engine is subject to the SO2 limitations of 9-1-301 (ground-level concentration) and 9-1-304 (0.5% by weight in fuel). Compliance with both of these requirements is very likely since diesel fuel with a 0.05% by weight sulfur is mandated for use in California. Like all sources, S-1 is subject to Regulation 6 ("Particulate and Visible Emissions"). This engine is not expected to produce visible emissions or fallout in violation of this regulation and it will be assumed to be in compliance with Regulation 6 pending a regular inspection.

This project is considered to be ministerial under the District's CEQA Regulation 2-1-311 and therefore is not subject to CEQA review. The engineering review for this project requires only the application of standard permit conditions and standard emission factors in accordance with Permit Handbook Chapter 2.3.

This project is within 1,000 ft from the nearest public school and therefore is subject to the public notification requirements of Regulation 2-1-412.

A toxic risk screening analysis is required because the abatement equipment and throughput increase occurred after May 2000 and it was determined with a PM-10 of 0.0495 g/BHP-hr the risk is less than 10 in a million. The facility will operate the source for no more than 100 hours in a 12 month period for the facility to have a cumulative risk level less than 10 in a million. The facility has accepted this throughput limitation. In addition, the facility will install a catalyzed diesel particulate filter.

Offsets, PSD, NSPS, and NESHAPS are not triggered.

VIII. CONDITIONS

S-1 Emergency Generator, Caterpillar 3412; 500KW (749 BHP) 100 hours annually
A-1 CleanAir Permit Filter System - Diesel Particulate Filter- catalyzed DPF

1. The source S-1 engine is subject to the requirements of Regulation 9, Rule 1 ("Sulfur Dioxide"), and the requirements of Regulation 6 ("Particulate and Visible Emissions"). The Emergency Generator known as (S-1) shall be fired exclusively on diesel fuel having a sulfur content no greater than 0.05% by weight. In addition, the source S-1 shall be abated at all times during operation by A-1. Abatement device A-1 shall have a minimum efficiency of 70% reduction in diesel particulate emissions. The abatement device A-1 shall be properly maintained and/or inspected as specified by the manufacturer.
(Regulation 9, Rule 1; Regulation 6, BACT)

2. Hours of Operation

The emergency standby engine (S-1) shall only be operated to mitigate emergency conditions or for reliability-related activities. Operation for reliability-related activities shall not exceed 100 hours per source in any calendar year. Operation while mitigating emergency conditions is unlimited. (Basis: Reg 9-8-330)

3. Emergency Conditions is defined as any of the following: (Basis: Reg 9-8-231)

a. Loss of regular natural gas supply.
b. Failure of regular power supply.
c. Flood mitigation.
d. Sewage overflow mitigation.
e. Fire.
f. Failure of a primary motor, but only for such time as needed to repair or replace the primary motor.

4. Reliability-related activities is defined as any of the following: (Basis: Reg 9-8-232)

a. Operation of an emergency standby engine to test its ability to perform for an emergency use, or
b. Operation of an emergency standby engine during maintenance of a primary motor.

5. The emergency standby engine shall be equipped with either: (Basis: Reg 9-8-530)

a. non-resettable totalizing meter that measures and records the hours of operation for the engine, or
b. a non-resettable fuel usage meter.

6. Records

The following monthly records shall be maintained in a District-approved log for at least 2 years and shall be made available for District inspection upon request.
(Basis: Reg 9-8-530, 1-441)

a. Total hours of operation.
b. Hours of operation under emergency conditions and a description of the nature of each emergency condition.
c. Fuel usage.

IX. RECOMMENDATION

Recommend that an A/C be issued for the following equipment:

S-1 Emergency Generator, Caterpillar 3412; 500KW (749 BHP) 100 hours annually
A-1 CleanAir Permit Filter System - Diesel Particulate Filter- catalyzed DPF

Irma C. Salinas
Air Quality Engineer II
Permit Services Division